June 12, 2000

Subject: Minutes/Ruminations from May 9, 2000 Meeting with UTSA/TRSA

From: Jim O'Leary

To: Meeting Attendees

Below, for your review and comment, is a summary of the meeting we had on May 9, 2000 concerning the latest option EPA's Office of Solid Waste (OSW) is evaluating for modifying current RCRA regulations associated with the management of solvent-contaminated shop towels, wipes and rags. (Note: In the interest of clarity, you will notice that I have elaborated on particular questions, issues or concerns raised in our meeting.)

Benefits v. Costs of current option under evaluation. Kevin Bromberg raised the question of the status of OSW's cost and benefit analysis and whether the option under evaluation was feasible. I responded that we have not focused on this analysis for several months primarily because we couldn't without knowing the XX cutoff. With XX off the table and the option hopefully in the fine-tuning stage, we can conduct this analysis. As I stated at our meeting, the framework for this analysis involves discussing the life-cycle of solvent-contaminated shop towels and wipers, and estimating where data is available the quantitative benefits, and elsewhere discussing the benefits in qualitative terms. Since my resources are scarce, I do not intend to conduct this analysis until I have OSW senior management's approval to proceed with that "fine-tuned" option.

Clarifying the term "listed" solvents. I believe Bill Guerry raised the issue of how the word "listed" was being used in the option under discussion. I mentioned that we were trying to distinguish a "listed" solvent waste that would not be allowed under certain handling practices from an "unlisted" solvent waste. For instance, our rules specify that a listed solvent exists when the concentration of one or more specified solvents exceeds 10 percent. Many situations could exist where the solvents being used by a generator do not exceed that 10 percent threshold and therefore will not be disallowed from certain management practices. We agreed a discussion was necessary in the preamble to clarify what we intended. This discussion, in turn, led to other related questions.

How would generators know what types of solvent they were using for wiping/cleaning operations? I replied that a generator would have to check their MSDSs to determine if they were using approved or disallowed solvents. I also brought up the concern that most solvent manufacturers provide ranges of concentrations for each constituent on their MSDS and sometimes that could pose problems because the range might fall below and above the 10 percent threshold - possibly making the solvent a listed solid waste upon discard. Kevin suggested I get in touch with CMA and HSIA and discuss this concern with them. I've already initiated contact with a CMA contact of mine and he's trying to arrange a meeting with their solvents group.

Who is responsible (and liable) for determining whether disallowed solvents are being used on shop towels? Generators, although Bob Tonetti did mention that we hoped industrial laundries

and other handlers/receiving facilities would work with their customers to ensure disallowed solvents were not used. I also brought up the situation where, for whatever reason, the industrial laundry clearly knew, or was aware, that they were managing a disallowed solvent.

Who is responsible for meeting the "no free liquids" condition? At our meeting, I said generators are responsible, but industrial laundries also can be responsible if they knowingly and/or repeatedly accept shop towels with "free liquids." In retrospect, I think greater clarity is needed. Both generators and handlers are responsible for ensuring this condition as well as the other conditions are met. This exemption, after all, applies to both generators and handlers and both have responsibilities. As we both know, most situations will be "black and white" where a generator's actions will clearly meet or not meet the "no free liquids" condition. There also will be some "gray' areas where the laundry will have to push back or work together with his customer(s) to ensure this condition is met. We do not expect to see many "gray' situations to begin with, and very few, if any, shortly thereafter.

I also might ask how this differs from current state policies. If "free liquids" arrive at the laundry, they are supposed to return the shop towels to their customer. If they don't, then the materials are a solid and hazardous waste subject to RCRA rules and regulations. This would be no different. By returning the shop towels, or decanting the "free liquids", the conditions for the exemption are met. Unlike current policies, however, we seek recordkeeping by handlers to maintain the integrity of the "system."

What if an inspector finds the conditions for the exemption not being met? Then LDRs attach.

How will the "no free liquids" standard be met? We intend to identify technologies, or combinations of technologies, that will meet the "no free liquids" condition. We also intend to include a performance standard condition to allow for new or emerging technologies that "assure free liquids will not release when wrung." Our latest thinking is to identify these technologies in the rule language.

How will EPA address the issue of who does the wringing and potential for "free liquids"? Yes, to some extent, it might be possible for one person to wring "free liquids" and another not to wring "free liquids." I might add that Massachusetts has never found a problem implementing this framework. However, the answer goes back to the previous question of who is responsible for meeting the "no free liquids" condition. I do not see how a laundry can ignore what their customers are doing to remove any free liquids. Its clear the generator and laundry should not have a problem if a facility is using mechanical means to remove any free liquids. Its also probably clear that a laundry should not have a problem if a generator uses very small amounts of solvent on a shop towel for wiping operations. However, hand-wringing towels residing in the bottom of a container for 24 hours after a constant flow of shop towels into the container has stopped should give a good indication of any potential problems. The bottom line is that laundries also bear some responsibility for being aware of flagrant violations on the part of the generator since they have responsibility for picking up and also handling the shop towels.

What if "free liquids" are found at an industrial laundry? When should an industrial laundry keep a record of this incident; i.e., what amount of "free liquid" triggers record keeping? What is a "reasonable amount" of "free liquid"? One drop? De minimus? Further evaluation of this issue is still necessary, but here is "some food for thought." First, I doubt if one would ever see "one drop" as compared to two other situations. In one scenario, residuals/stains are found in the bottom of the container. If one removes a sample of towels, particularly residing in the bottom of the container, and hang-wrings them and finds "no free liquids", the issue is resolved. If free liquids are found, then the laundry has two choices; i.e., return the towels to their customer or remove the "free liquids" themselves. The second scenario is more obvious. One can look down in the bottom of the drum, shake the drum around and clearly see liquids moving around.

As Kevin said in our meeting, if the system works according to plan, you should have to maintain very few records, particularly after you receive a container with "free liquids" on a continuous basis. In the preamble, we will seek comment on this issue in terms of when record keeping should occur.

What is EPA trying to do with a record keeping condition? Under the current system, there really isn't any accountability, except informally by individual laundries who receive "free liquids" and send them back to the generator voluntarily. Similarly, State policies are ambiguous and confusing in terms of how shop towels with "free liquids" should be managed. Under our proposed rule we are trying to clarify this ambiguity as well as foster more explicit accountability. We also are proposing to allow industrial laundries to ship materials containing "free liquids" back to their customers if they so wish without having to use a RCRA container, or hazardous waste manifest. We believe this is a small price to pay, even relative to the current system for industrial laundries. In fact, we believe this condition gives laundries leverage in pushing back on their customers to meet "their end of the bargain."

Why 5 Grams? How was this figure derived as a cut-off for the "dry' standard? Is this figure an average of 5 grams? Is there a test for the 5 gram standard? The 5 gram standard was chosen because this level can be achieved, if so desired, by generators desiring to foster pollution prevention, potential recycling of any "free liquids", and EPA's goal of fostering better solvents management.

The 5 gram standard represents a combination of (1) technologies able to reduce the amount of contaminants remaining (centrifuge, microwave extraction (Microchem), Petro-miser, Fierro Technology, etc.) to 5 grams or less, (2) situations involving facilities using very little solvent/per wipe to begin with, (3) results of our risks analysis, and (4) also stay within the bounds of "passing the laugh test" for meeting RCRA CC standards (500 ppmw for air emissions from containers). If we were to strictly look at meeting this standard from a RCRA CC viewpoint, then the 5 grams should be reduced to 1 or 2 grams per wipe or shop towel.

Why not an average of 5 grams per shop towel or wipe? Because if we were to take an average, we could easily have some shop towels weighing considerably more such that meeting the "no

free liquids" condition was sufficient to meet the "dry" standard. Likewise, one could easily put clean shop towels in with soiled towels and quickly bias meeting the standard. Basically, we are seeking a more stringent standard in return for meeting subsequent conditions; i.e., transportation and handling conditions.

Is there a test for meeting this 5 gram standard? David Dunlap brought up concerns about measuring shop towels that contain contaminants other than solvent. How does one account for these other contaminants? As stated in our meeting, we always took two measurements: before the wiping/cleaning operation to include only the solvent, and after extraction/wiping operation to include not only the solvent, but anything else along for the ride; i.e., "stuff" as Kevin said. (Independently, we took measurements of clean wipes/shop towels prior to use.) Again, our tests showed this 5 gram standard can be met.

David Dunlap also brought up the situation he has found where a considerable amount of "stuff" still remains after centrifuging. I would like to see this data. I would particularly like to know the name, address and telephone number of the facility where the test /measurement was made, the manufacturer of the centrifuge and model, and age of the machine if possible, load (how many towels and weight per soiled and clean; i.e., new, towel), and type of solvent used. I might add that if we assume a worse case scenario and that certain centrifuge scenarios do not meet the 5 gram standard, the generator would still qualify for meeting the "no free liquids" condition. As agreed yesterday, I intend to provide UTSA with our data on this subject.

Kevin Bromberg suggested that we also examine the feasibility of using an average gram standard, or average, but "no greater than" standard, to account for some variability that is always bound to exist. I believe we can address these concerns in the preamble and also ask for comment. As for a specific 5 gram test, we can discuss in preamble and take comment.

How will the closed container standard be met? What about use of a cloth bag? By meeting either applicable packaging requirements under DOT hazardous materials regulations (See 49 CFR 171-180) or ensure that the container has no identifiable releases to the environment. As for use of a cloth bag, I do not see how such a container could meet the "no identifiable releases to the environment" standard since a cloth bag is porous-unless the generator met the 5 gram standard.

Just to be sure, I also want to clarify the closed container standard. Our intention is that the containers would stay closed not only during transport, but up until initiating the laundering process. My Agency workgroup was very strong about this. I might add that Region 9 conducted site visits at industrial laundries a few years ago and found solvent-contaminated shop towels and printer towels air drying outside the laundry building. Uncontrolled air drying is dilution and a prohibited treatment method.

For reusable shop towels and wipers handled in a non-landfill scenario where additional treatment is required, why should the wipers be hazardous even if they contain contaminants

other than hazardous solvents that fail for a particular hazardous characteristic? Won't the treatment address the other characteristics? Won't the facility still have to test any residuals for TC? Our latest thinking is not to worry about co-contaminants. Additional treatment and or testing should address this issue.

Where is the point of generation? Can we verify and clarify with OGC that meeting the conditions for the exemption will not trigger LDRs for generators and subsequent handlers? I spoke to John Michaud and he clearly stated that if all of the conditions are met, the materials remain a solid waste. Therefore, LDRs are not triggered. However, he also made clear that RCRA is a "cradle to grave" statute with both generators and handlers having responsibilites for managing a hazardous waste. If either or both parties fail to manage the solvent wipers according to specified conditions, then the exemption is forfeited and LDRs apply - either to the generator, handler, or both.

Should we have a discussion on sludges generated by industrial laundries in the preamble? Do we want rule language excluding these materials? We intend to discuss the results of our risk analysis in the preamble/technical background document (TBD) describing how these materials do not pose a risk when disposed of in landfill. As for rule language, I believe the preamble and TBD should be sufficient. We also don't want unnecessary rule language.

Should we have a discussion on why a RCRA storage permit isn't necessary? Yes. As I said at the meeting, we can easily discuss the storage practices of industrial laundries and how they quickly, almost immediately, turn these materials around, such that storage is not a problem (other than open containers or containers with "free liquids").

Why are you banning pyridine and nitrobenzene when industrial laundries already have to test their sludges for these constituents? Good point. Not sure why anymore. I'll have to review our risk analyses and see if we still need to ban. Our latest thinking is to drop pyridine and nitrobenzene from this list. I also have been in touch with CMA and they are checking on 2-nitrobenzene usage. It may be we can drop this solvent as well.
nitropropane

Estimating cross-media benefits/impacts. David Dunlap brought up concern that generators using advanced solvent extraction processes will obtain RCRA benefits, but such benefits might be offset to some extent by increased air emissions and Title 5 impacts. Will try to address in RIA.

Generators using exotic solvents, such as terpene. We are aware of generators using terpene and other exotic solvents that have potential to self-combust when stored in open containers. As yet, we are unable to determine an exact cause for this situation other than we have found in our damage cases that spontaneous combustion appears to happen when stored in open containers or on the floor of the laundry; i.e., oxygen in conjunction with solvent, such as terpene generates tremendous heat. In my short data gathering effort on fires at laundries, we found three laundries that burned down or were seriously damaged. In speaking to the fire marshalls, spontaneous combustion of shop towels appeared to be the problem; and the shop towels were not stored in

closed containers.

We agree with UTSA/TRSA that using water removes this potential hazard and that "free liquids" should be allowed in this particular case. We might want to address this situation possibly with a modified label. Another question I have is why not store these materials with exotic solvents in sealed containers since that will control for any additional oxygen? Bob Schaefer probably has that answer.

That's about it. I thought some very good questions were raised. We can address these concerns in the preamble and take comment on them where appropriate.

Meeting Attendees

David Dunlap, UTSA
Kevin Bromberg, SBA
Bill Guerry, Collier, Shannon, Rill & Scott
David Trimble, Vista Environmental
Judy Hanna, TRSA
Bob Tonetti, OSW
Mark Eads, OSW
Kurt Lamber, OECA
Jodi Glickman, Reinvention Office
Andy Teplitzky, Reinvention Office
Jim O'Leary, OSW